FIG. 1

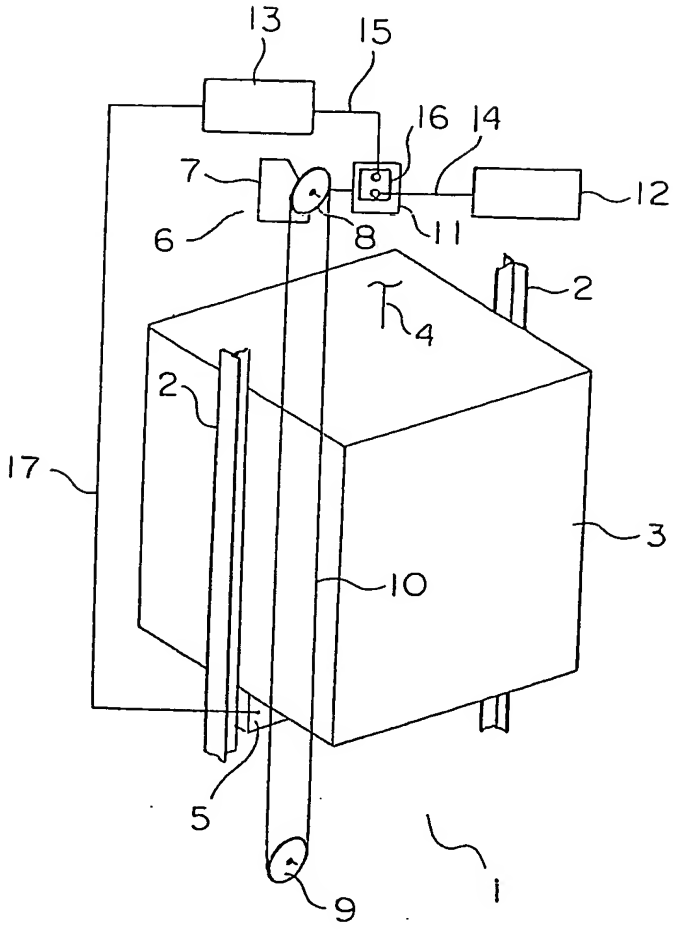


FIG. 2

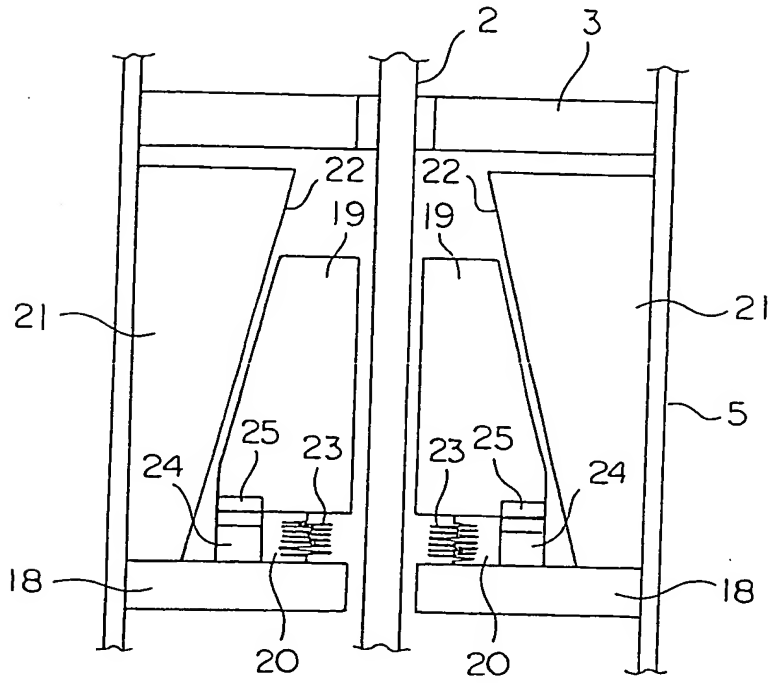

2
3
22
22
19
19
21
21
5
25
23
23
25
24
24
18
18
20
20

FIG. 3

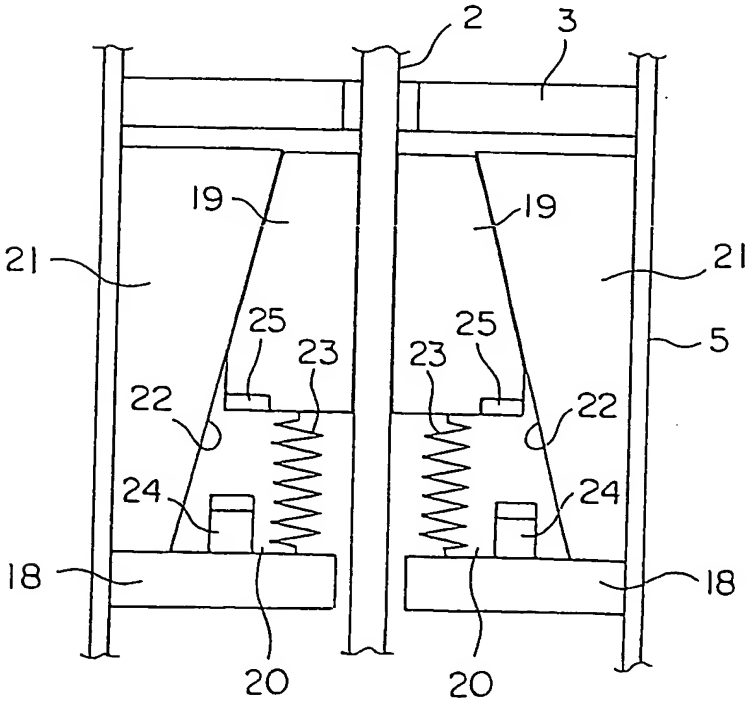

2
3
19
19
21
21
5
25
23
23
25
22
22
24
24
18
18
20
20

FIG. 4

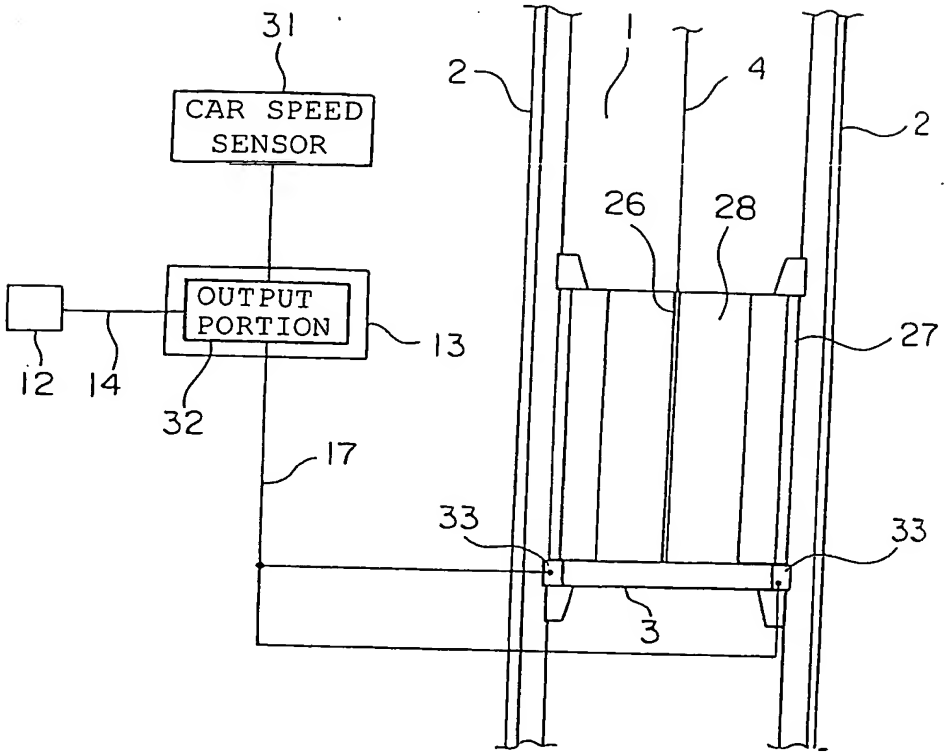

31
CAR SPEED SENSOR
OUTPUT PORTION
13
12
14
32
17
2
1
4
2
26
28
27
33
33
3

FIG. 5

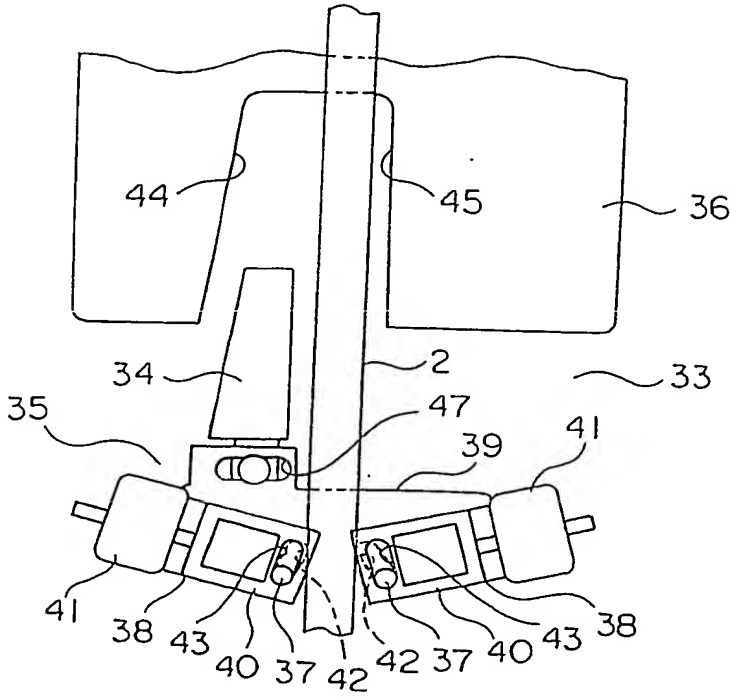

44
45
36
34
2
33
35
47
39
41
41
38
43
40
37
42
42
37
40
43
38

FIG. 6

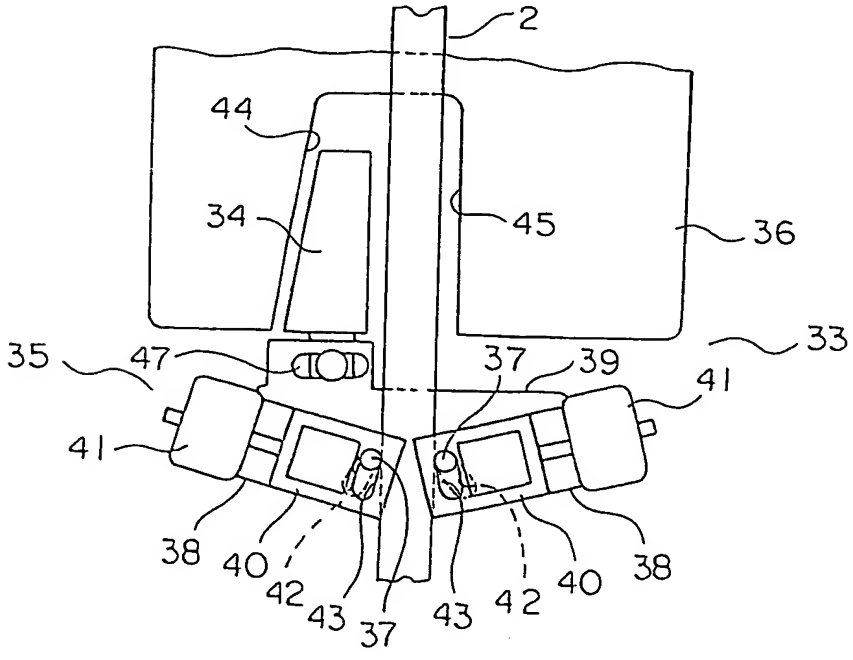

2
44
34
45
36
33
35
47
37
39
41
41
38
40
42
43
37
43
42
40
38

FIG. 7

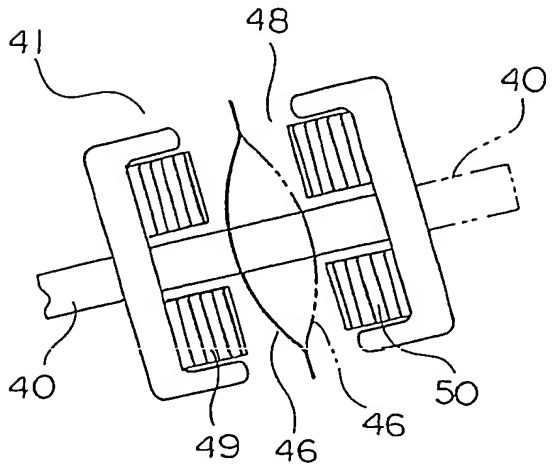

41
48
40
40
49
46
46
50

FIG. 8

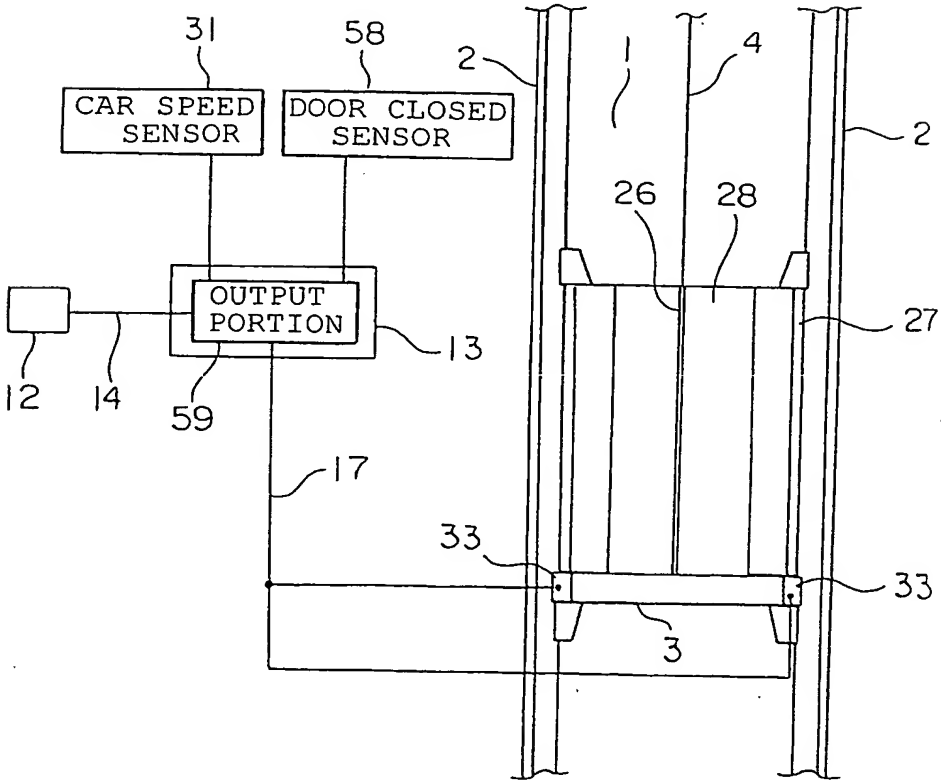

31
58
CAR SPEED SENSOR
DOOR CLOSED SENSOR
OUTPUT PORTION
13
12
14
59
17
2
1
4
2
26
28
27
33
33
3

FIG. 9

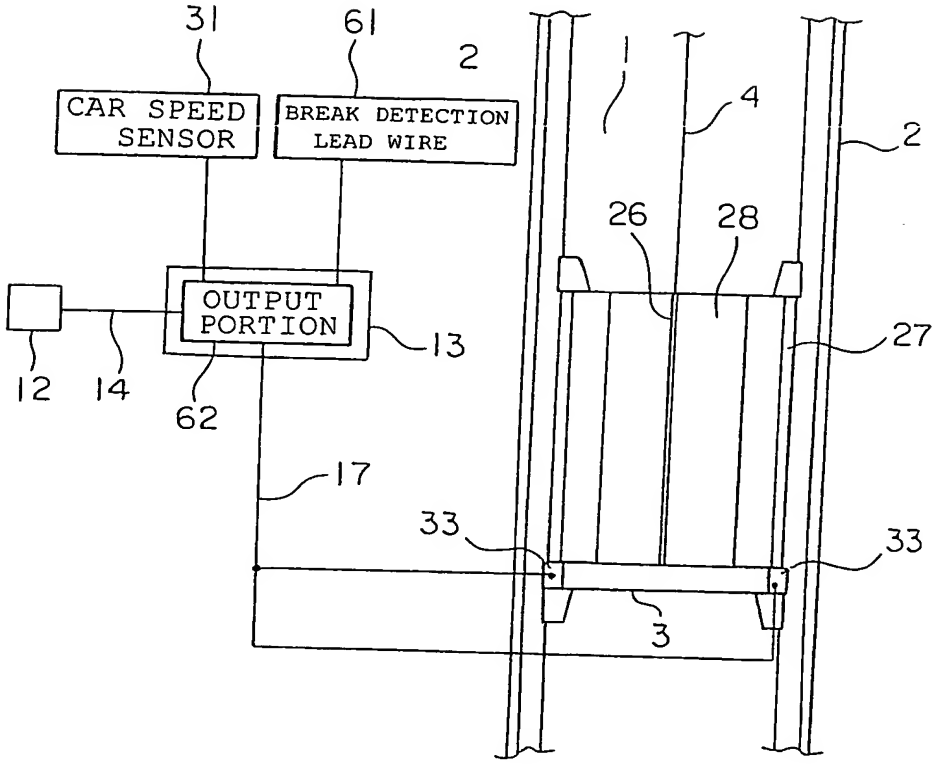

31
61
2
1
4
2
CAR SPEED SENSOR
BREAK DETECTION LEAD WIRE
26
28
OUTPUT PORTION
13
27
12
14
62
17
33
33
3

FIG. 10

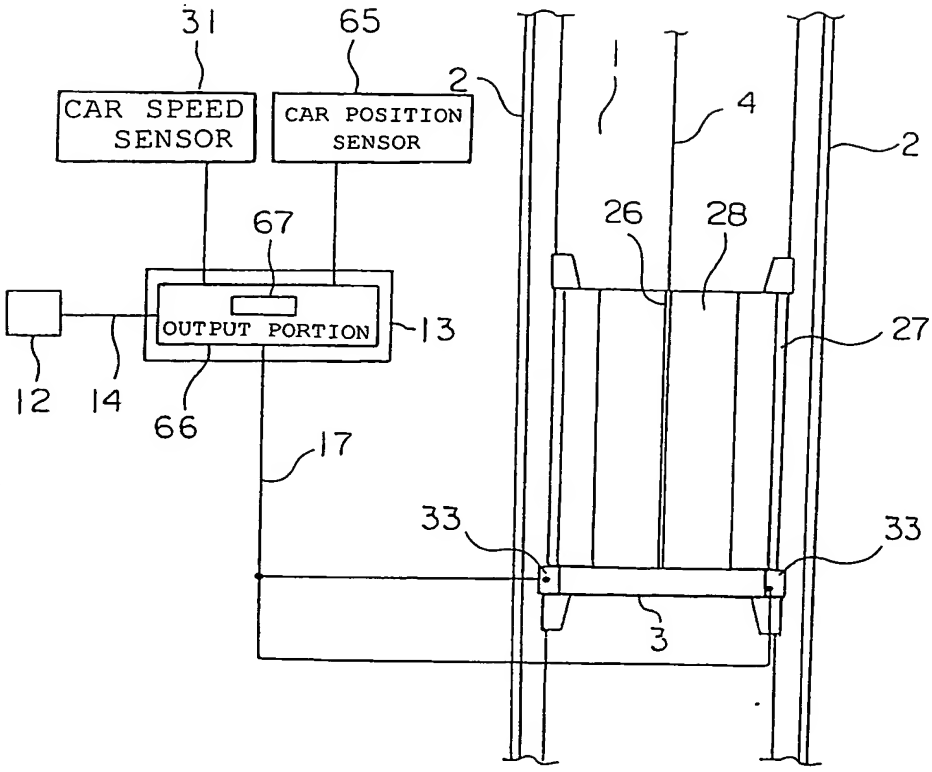

31
65
CAR SPEED SENSOR
CAR POSITION SENSOR
2
1
4
2
67
26
28
OUTPUT PORTION
13
27
12
14
66
17
33
33
3

FIG. 11

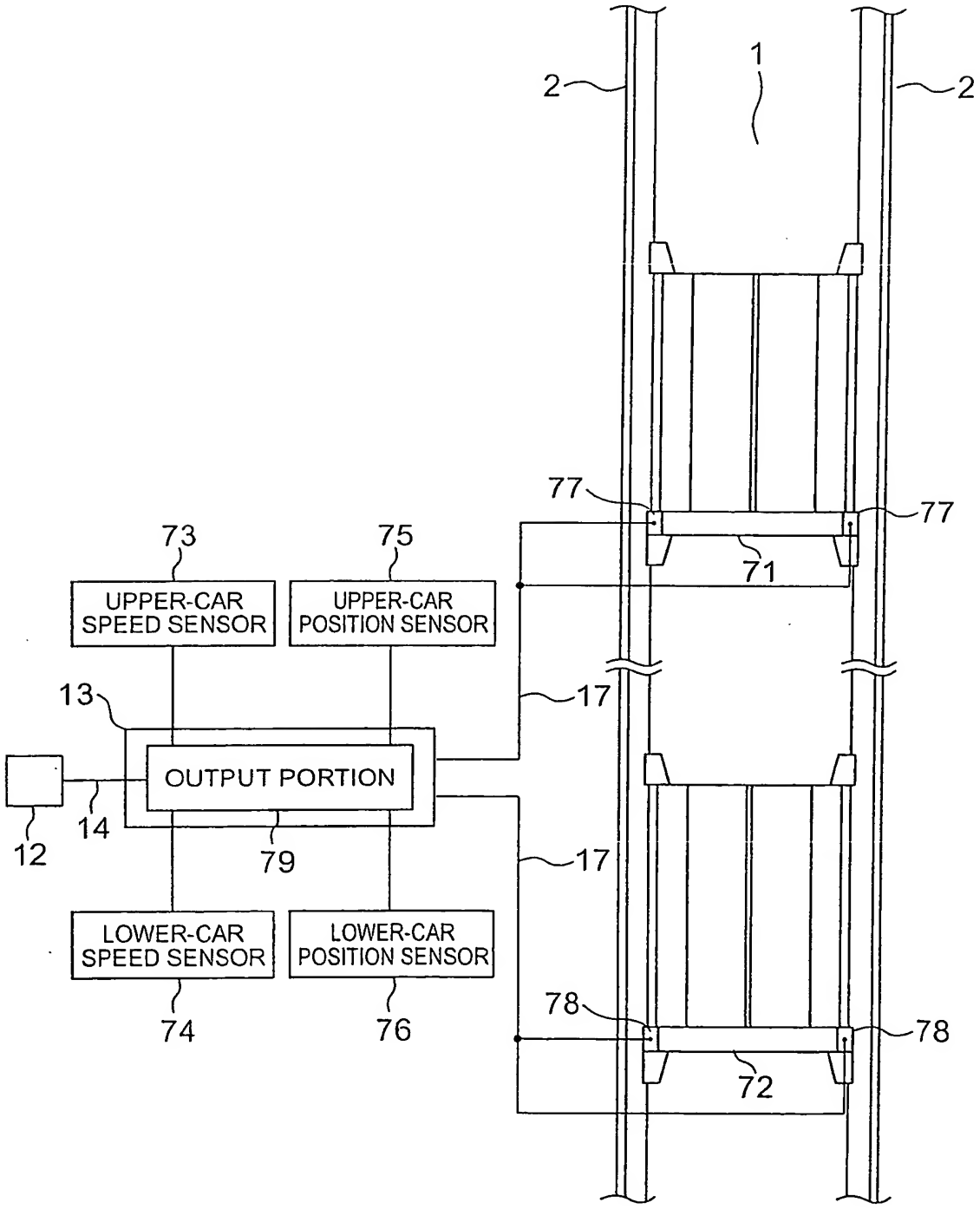

1
2
2
77
77
71
73
75
UPPER-CAR SPEED SENSOR
UPPER-CAR POSITION SENSOR
13
17
OUTPUT PORTION
12
14
79
17
LOWER-CAR SPEED SENSOR
LOWER-CAR POSITION SENSOR
78
78
72
74
76

FIG. 12

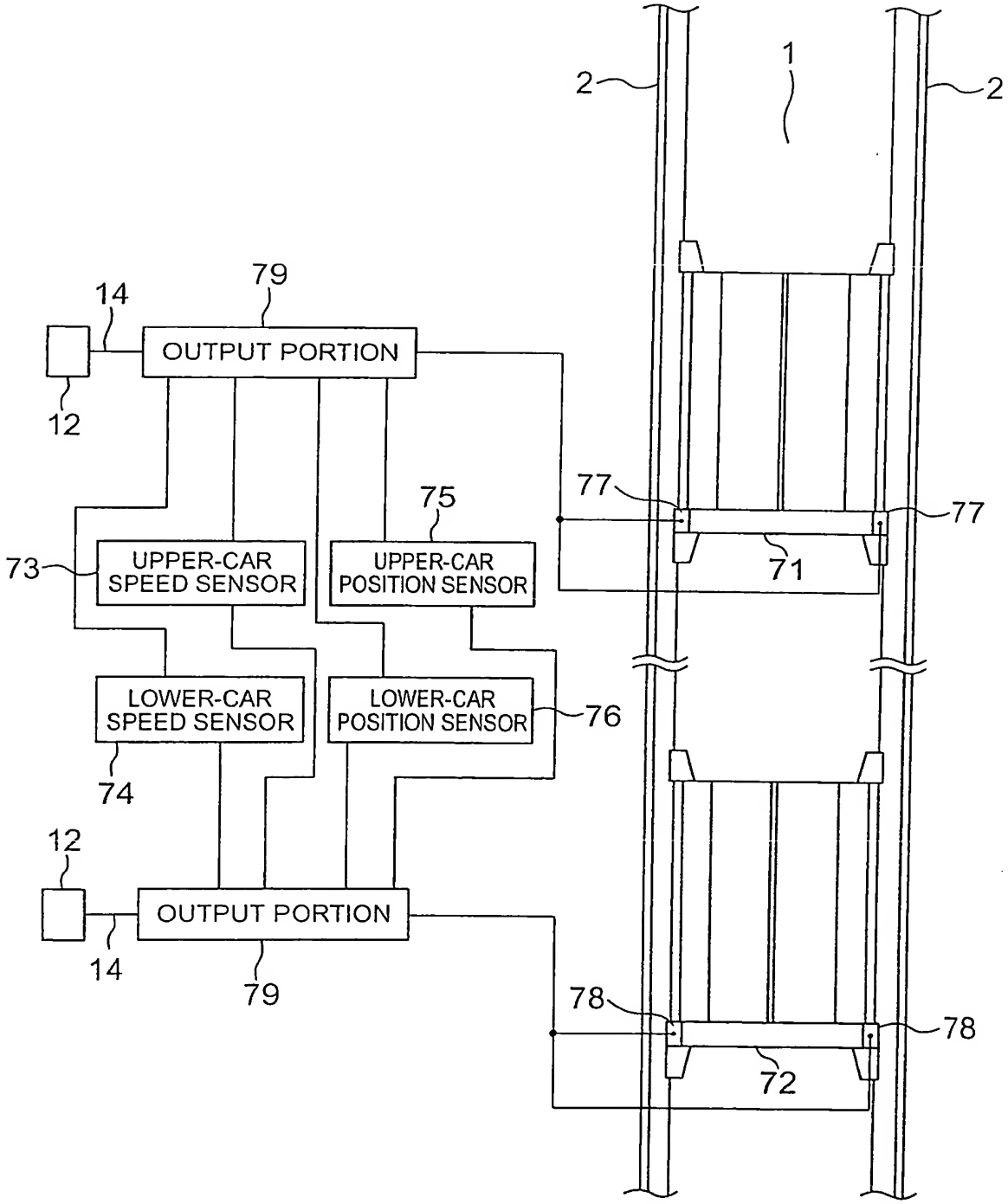

1
2
2
79
14
OUTPUT PORTION
12
77
77
75
73
UPPER-CAR SPEED SENSOR
UPPER-CAR POSITION SENSOR
71
LOWER-CAR SPEED SENSOR
LOWER-CAR POSITION SENSOR
76
74
12
OUTPUT PORTION
14
79
78
78
72

FIG. 13

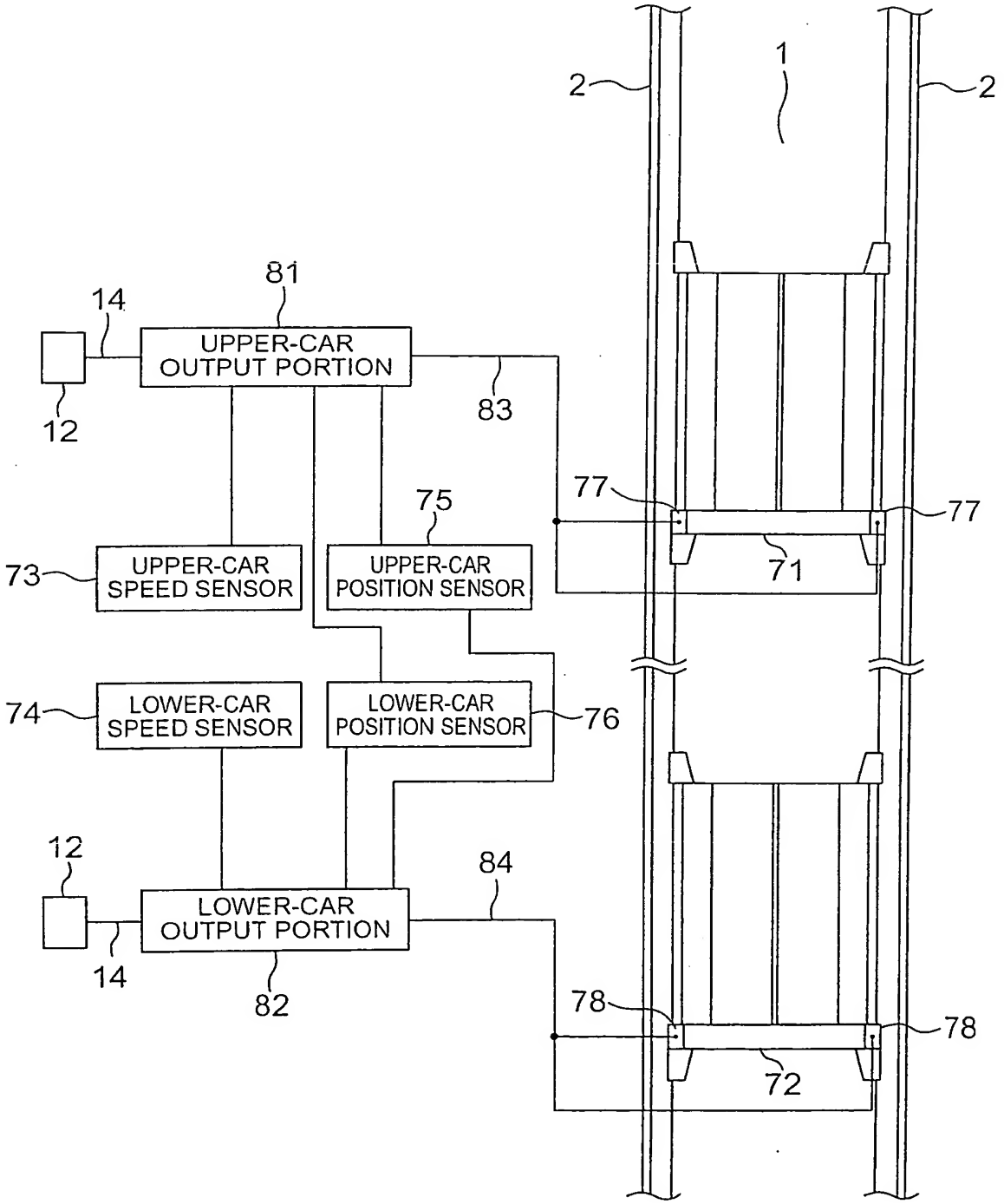

1
2
2
81
14
UPPER-CAR OUTPUT PORTION
12
83
77
77
75
73
UPPER-CAR SPEED SENSOR
UPPER-CAR POSITION SENSOR
71
74
LOWER-CAR SPEED SENSOR
LOWER-CAR POSITION SENSOR
76
12
84
LOWER-CAR OUTPUT PORTION
14
82
78
78
72

FIG. 14

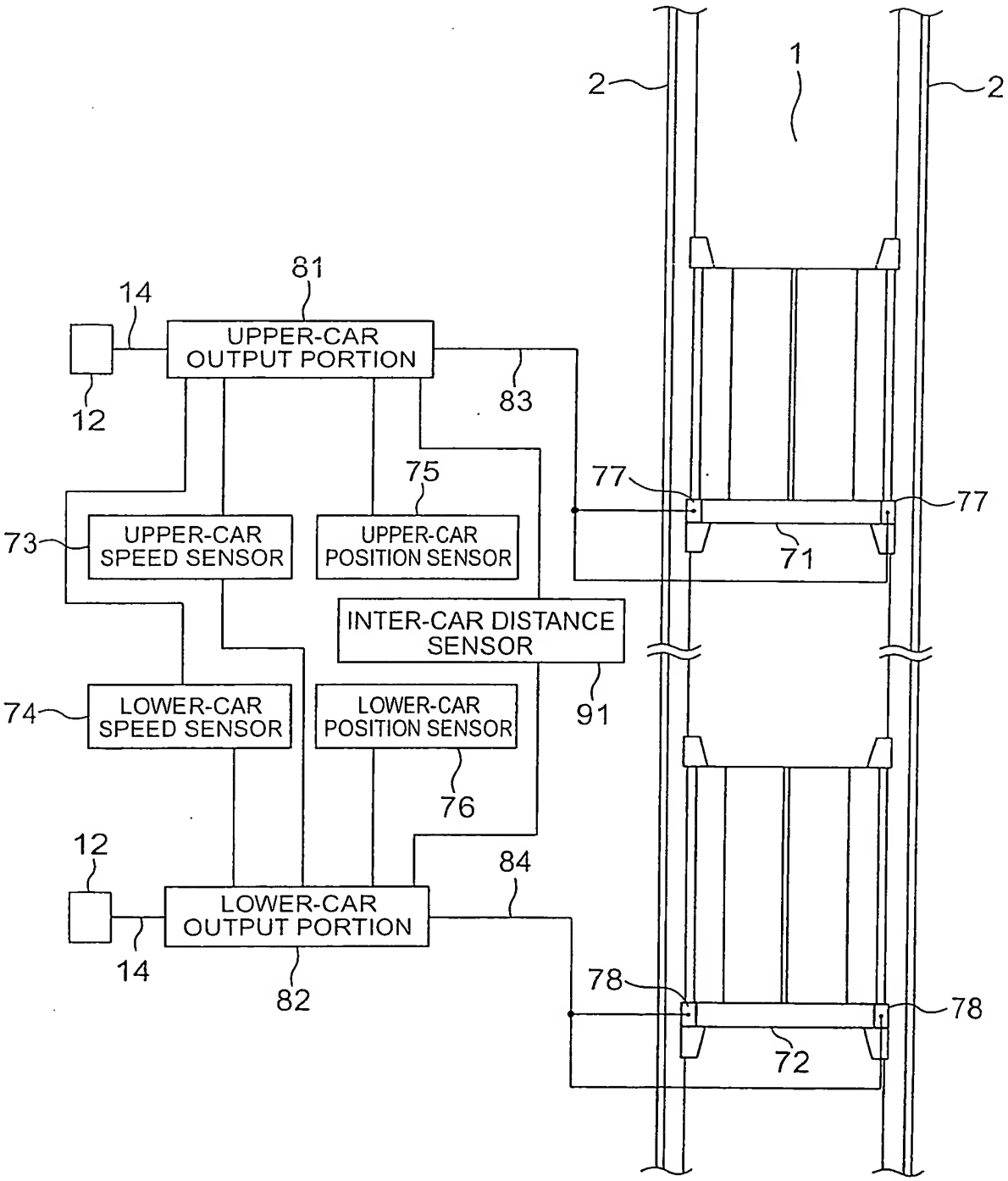

1
2
2
81
14
UPPER-CAR OUTPUT PORTION
12
83
75
77
77
73
UPPER-CAR SPEED SENSOR
UPPER-CAR POSITION SENSOR
71
INTER-CAR DISTANCE SENSOR
91
74
LOWER-CAR SPEED SENSOR
LOWER-CAR POSITION SENSOR
76
12
84
LOWER-CAR OUTPUT PORTION
14
82
78
78
72

FIG. 15

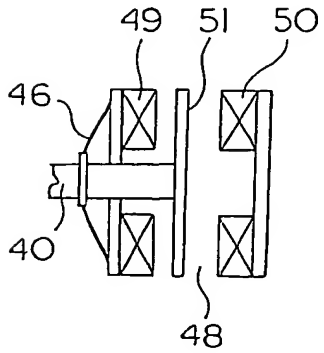


FIG. 16

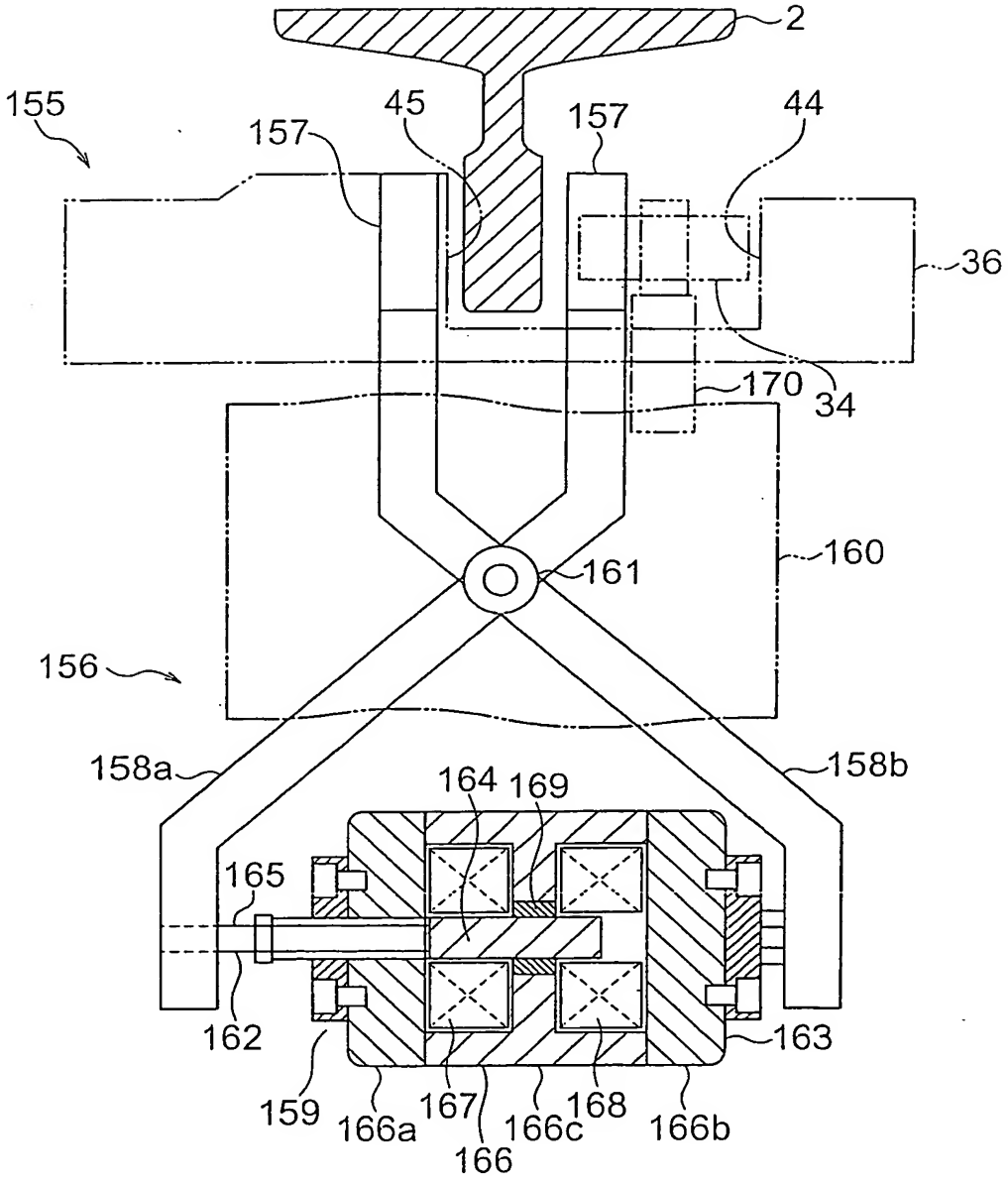

2
155
45
157
157
44
36
170
34
160
161
156
158a
158b
164
169
165
162
163
159
166a
167
166
166c
168
166b

FIG. 17

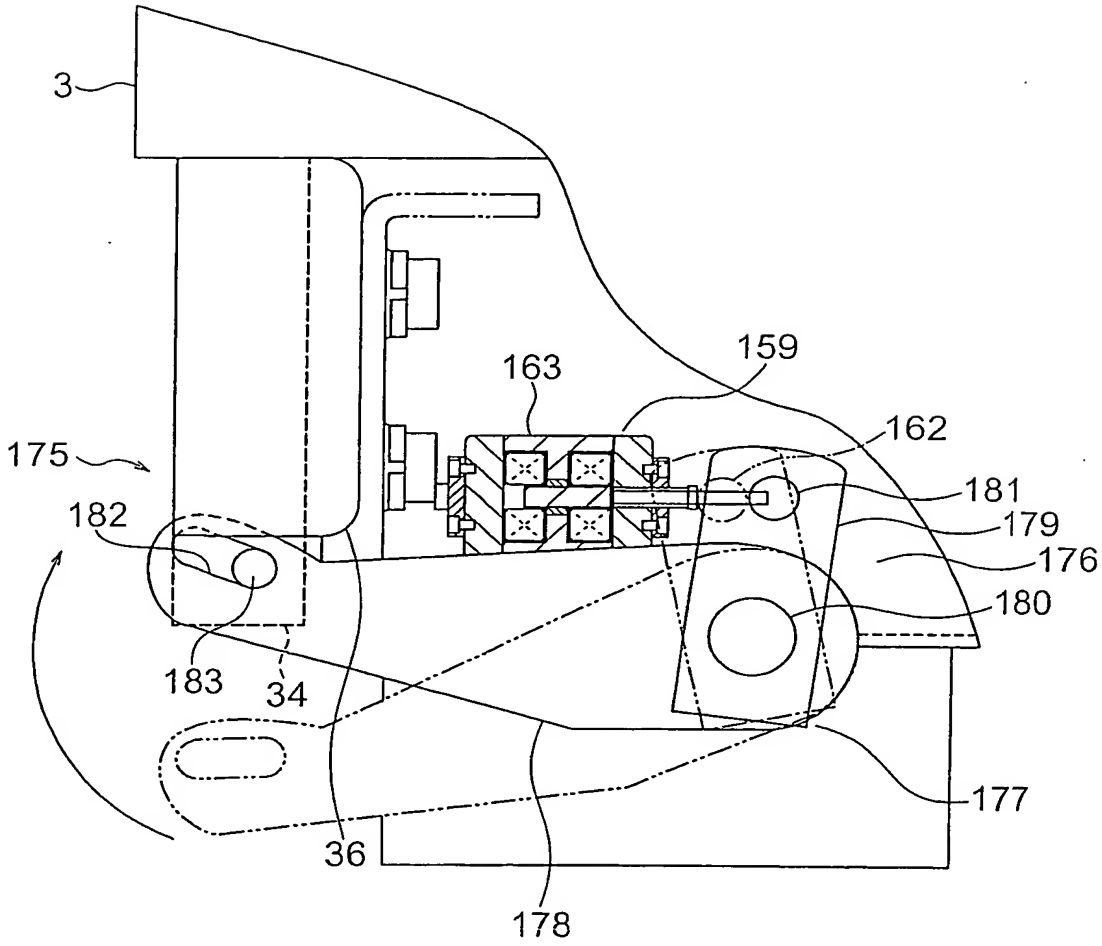


FIG. 18

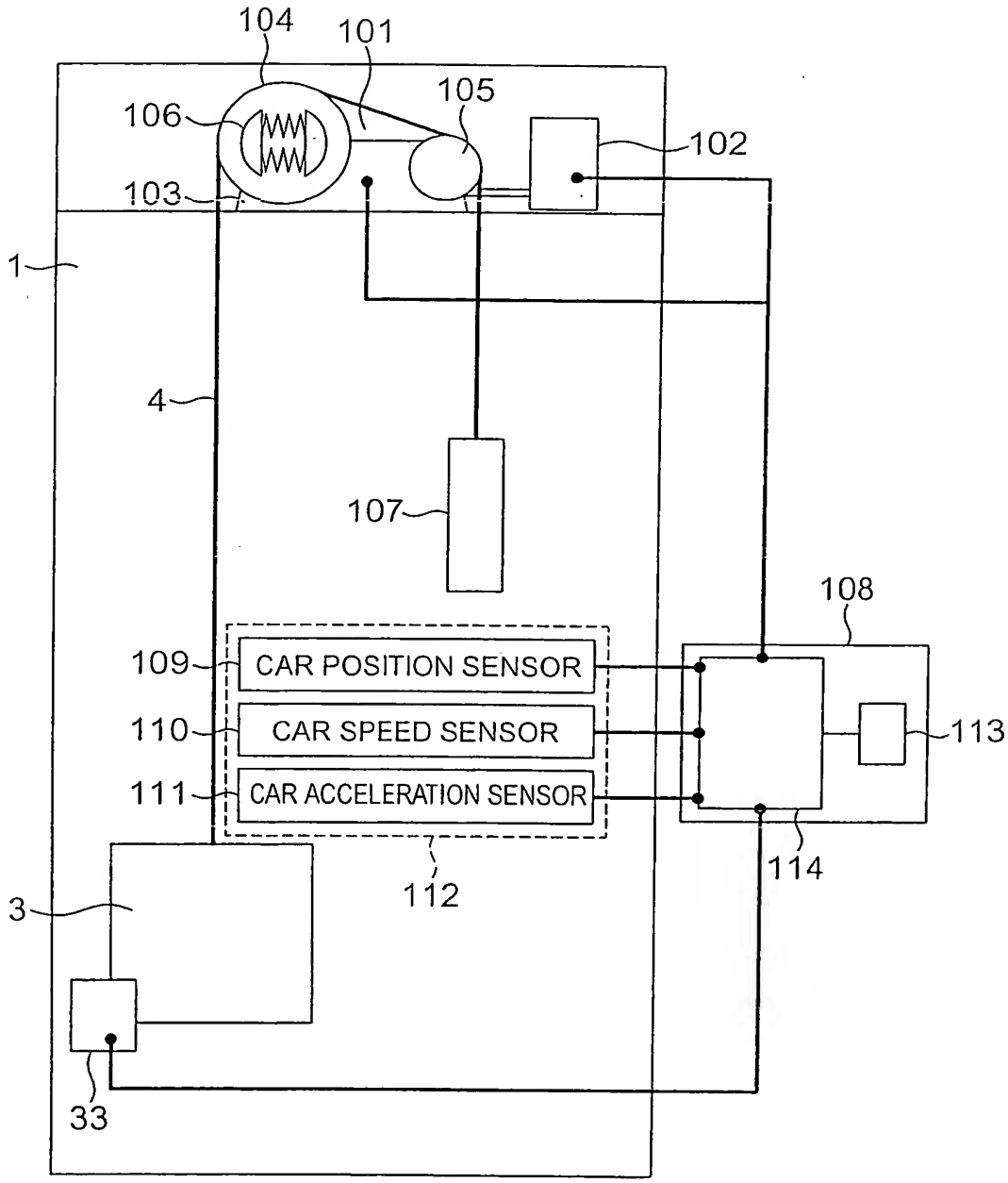

104
101
105
106
102
103
1
4
107
108
109
CAR POSITION SENSOR
110
CAR SPEED SENSOR
113
111
CAR ACCELERATION SENSOR
112
114
3
33

FIG. 19

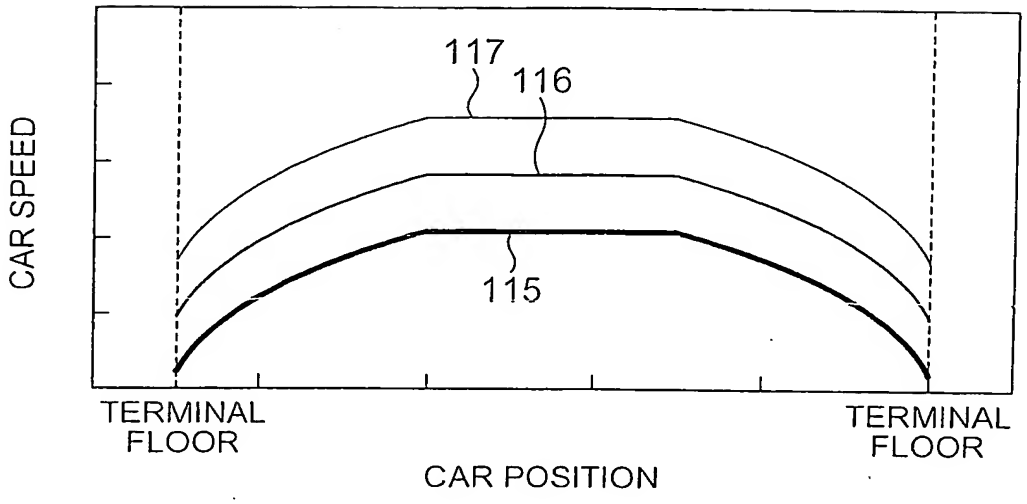

117
116
115
CAR SPEED
TERMINAL FLOOR
TERMINAL FLOOR
CAR POSITION

FIG. 20

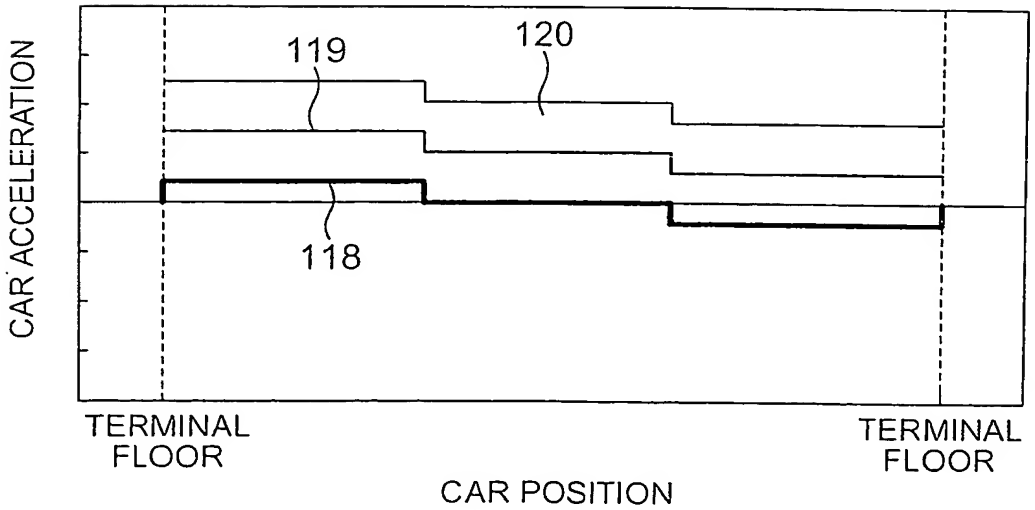

119
120
118
CAR ACCELERATION
TERMINAL FLOOR
TERMINAL FLOOR
CAR POSITION

FIG. 21

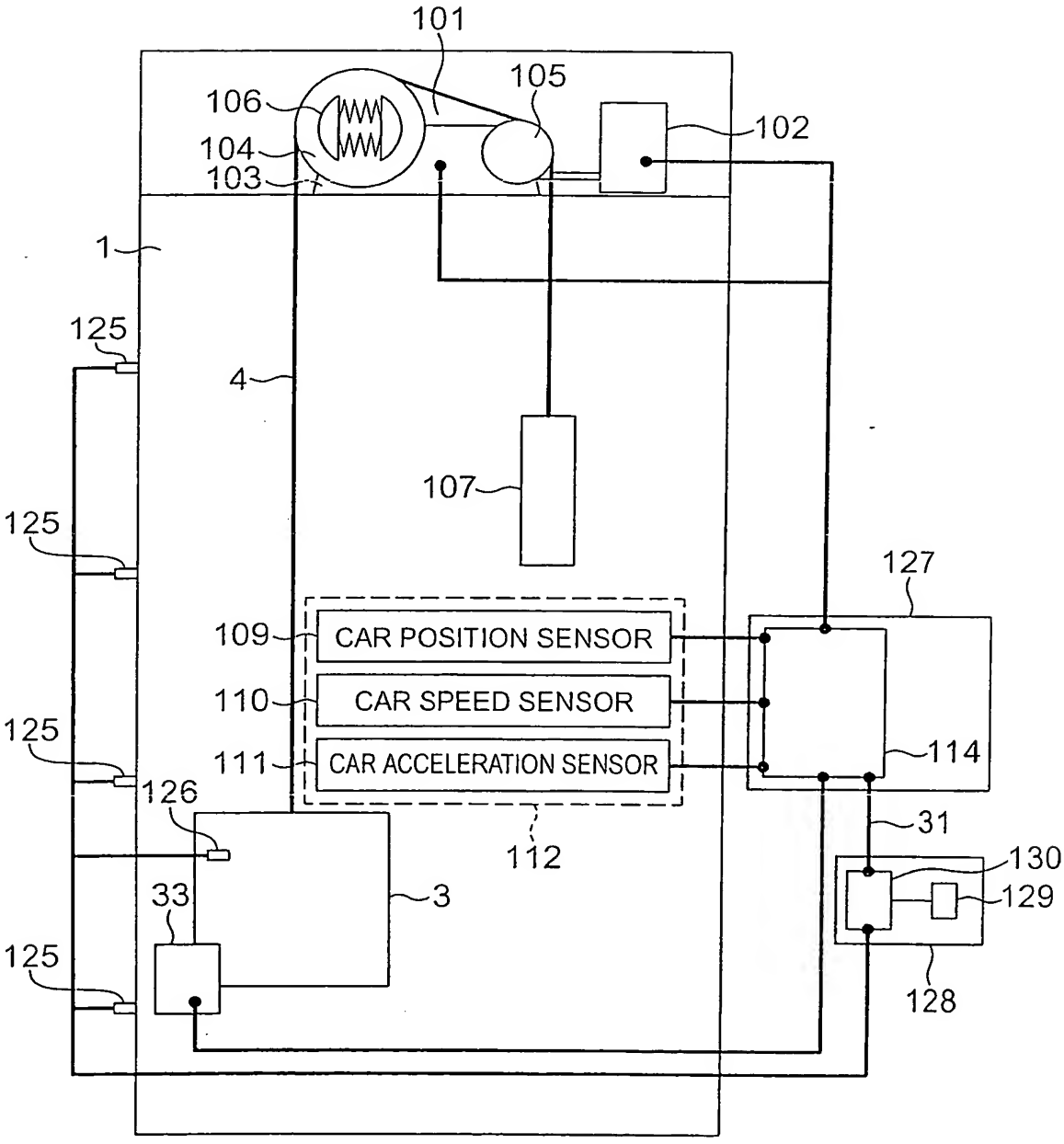

101
105
106
104
103
102
1
125
4
107
125
127
109
CAR POSITION SENSOR
110
CAR SPEED SENSOR
125
111
CAR ACCELERATION SENSOR
114
126
31
112
130
33
3
129
125
128

FIG. 22

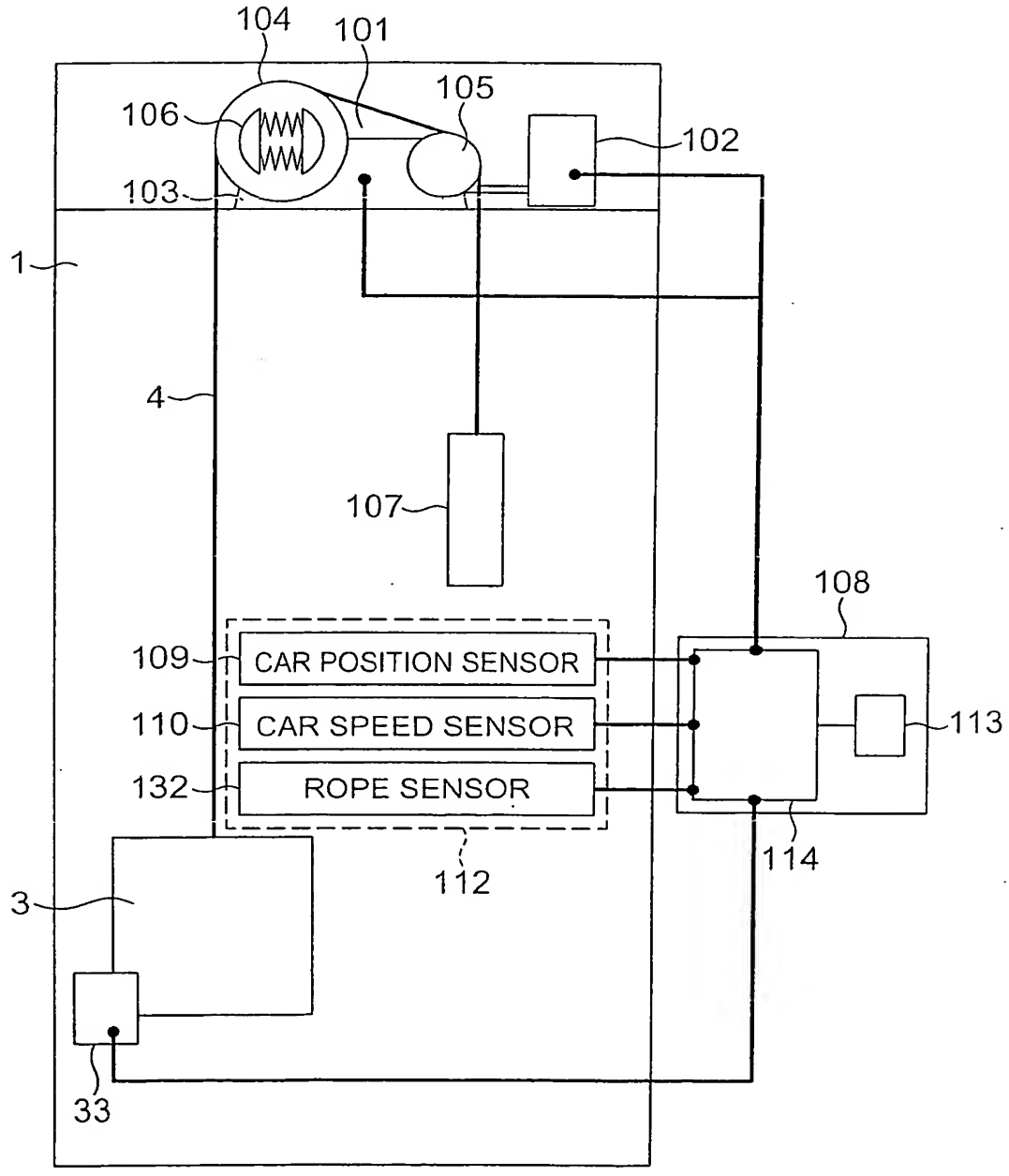

104
101
105
106
102
103
1
4
107
108
109
CAR POSITION SENSOR
110
CAR SPEED SENSOR
113
132
ROPE SENSOR
112
114
3
33

FIG. 23

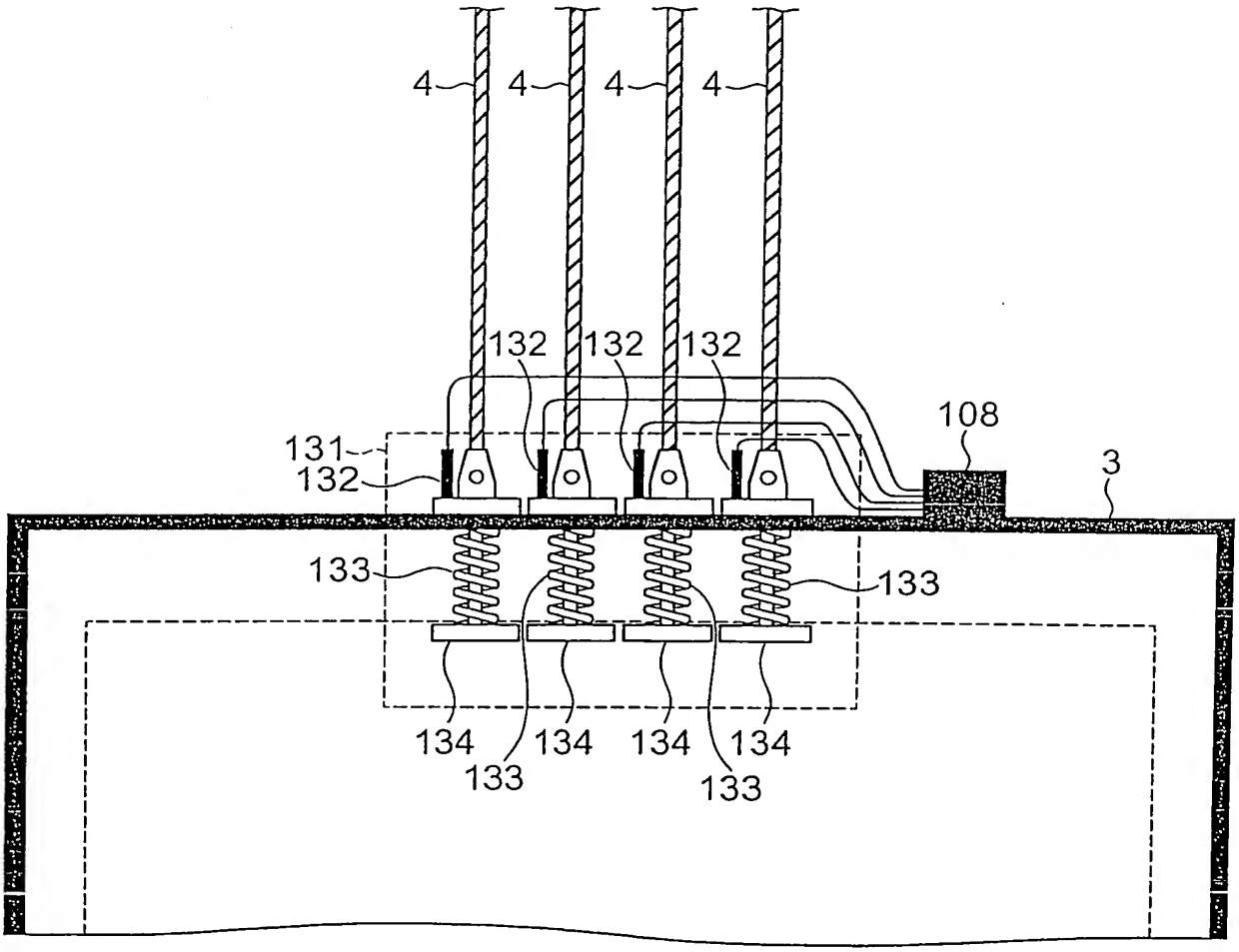


FIG. 24

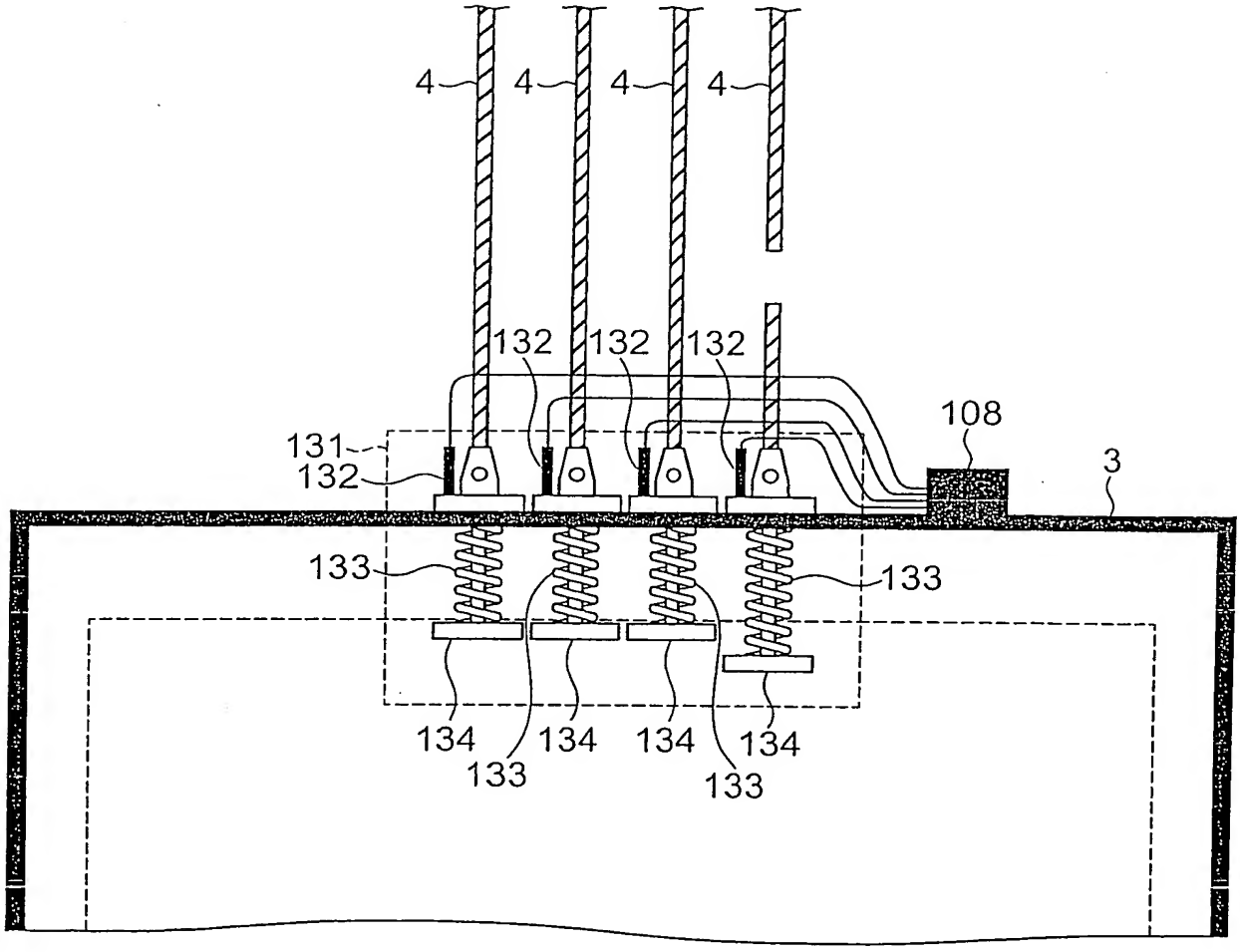


FIG. 25

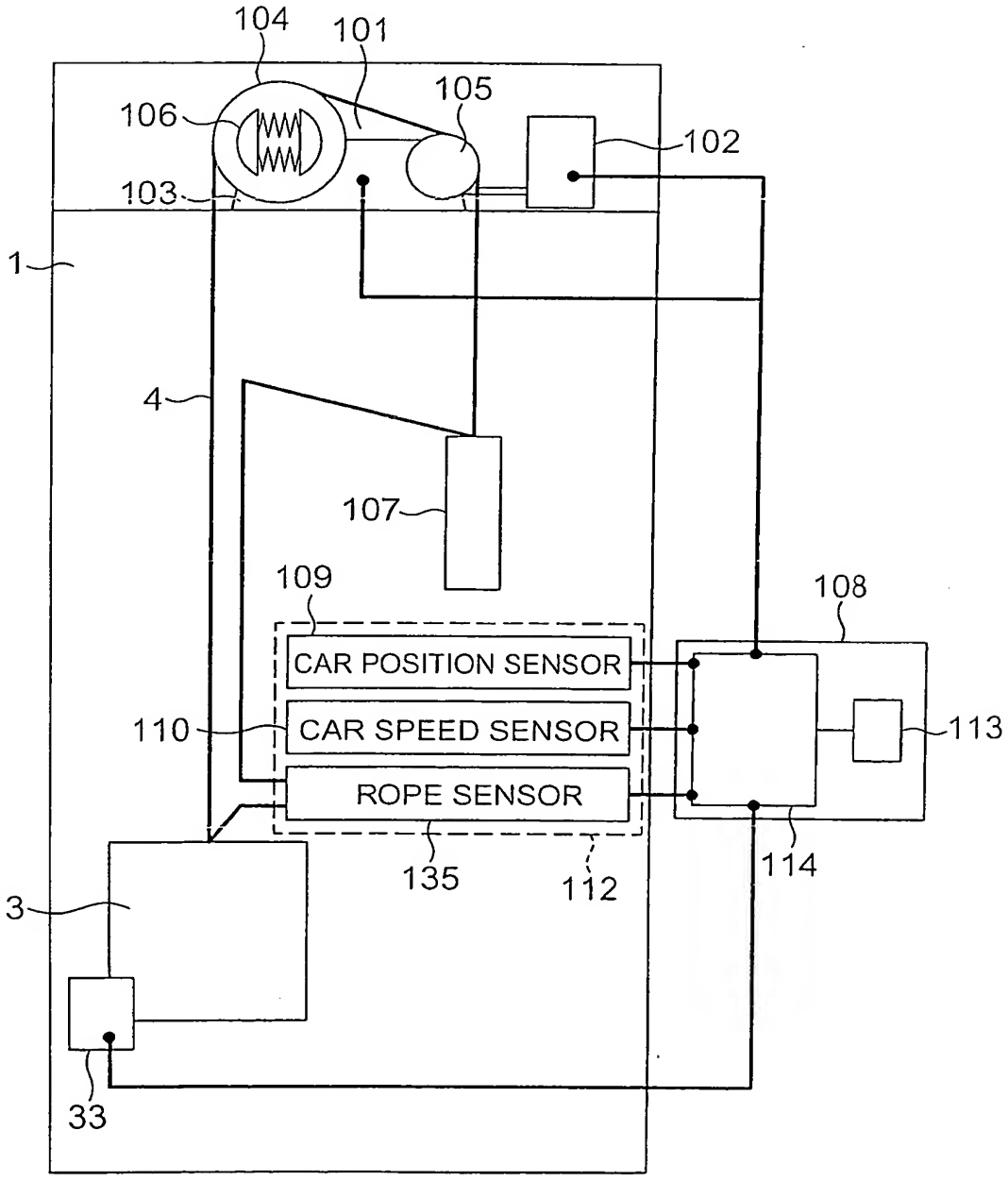

104
101
105
106
102
103
1
4
107
109
108
CAR POSITION SENSOR
110
CAR SPEED SENSOR
113
ROPE SENSOR
135
112
114
3
33

FIG. 26

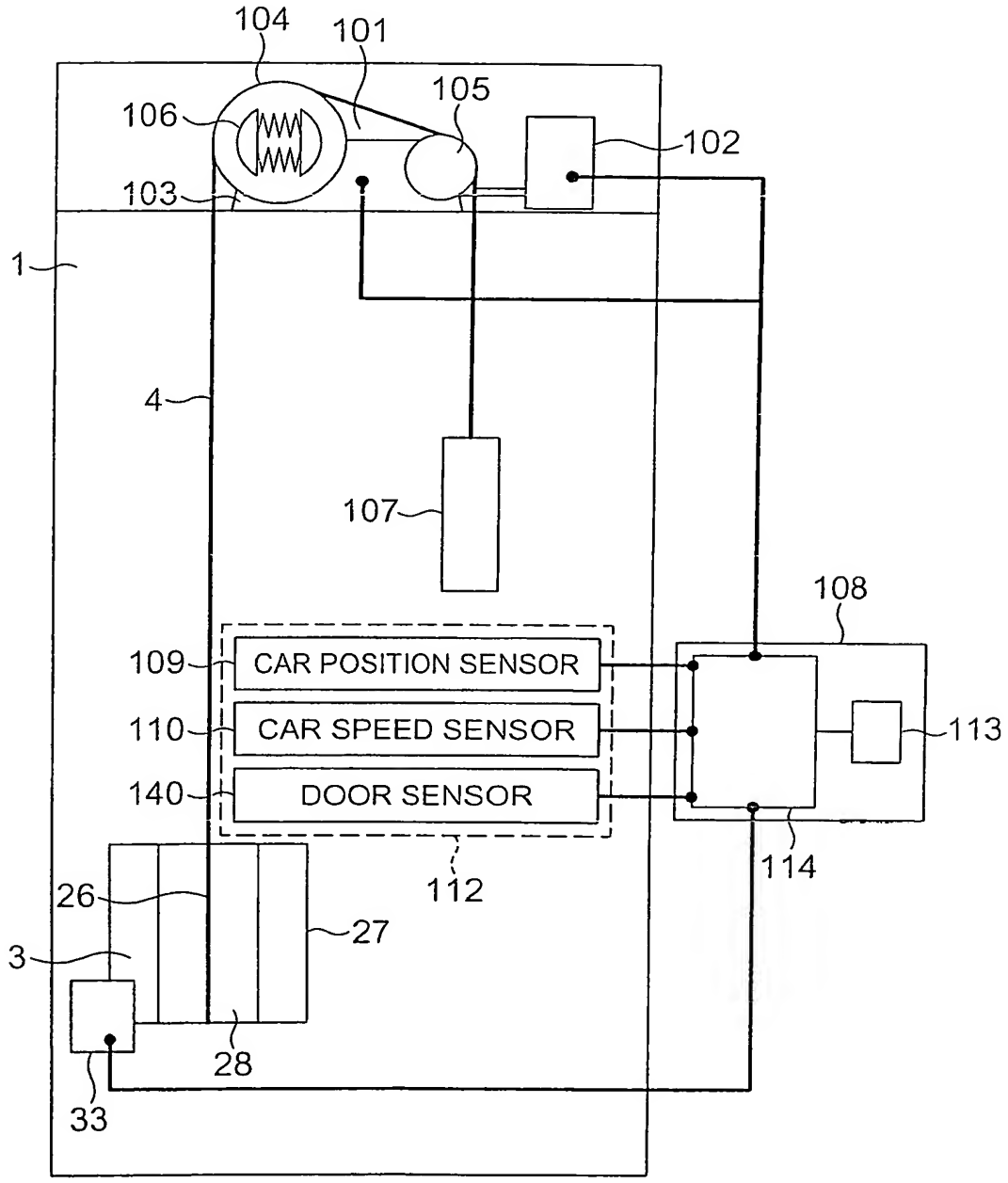

104
101
105
106
102
103
1
4
107
108
109
CAR POSITION SENSOR
110
CAR SPEED SENSOR
140
DOOR SENSOR
113
112
114
26
27
3
28
33

FIG. 27

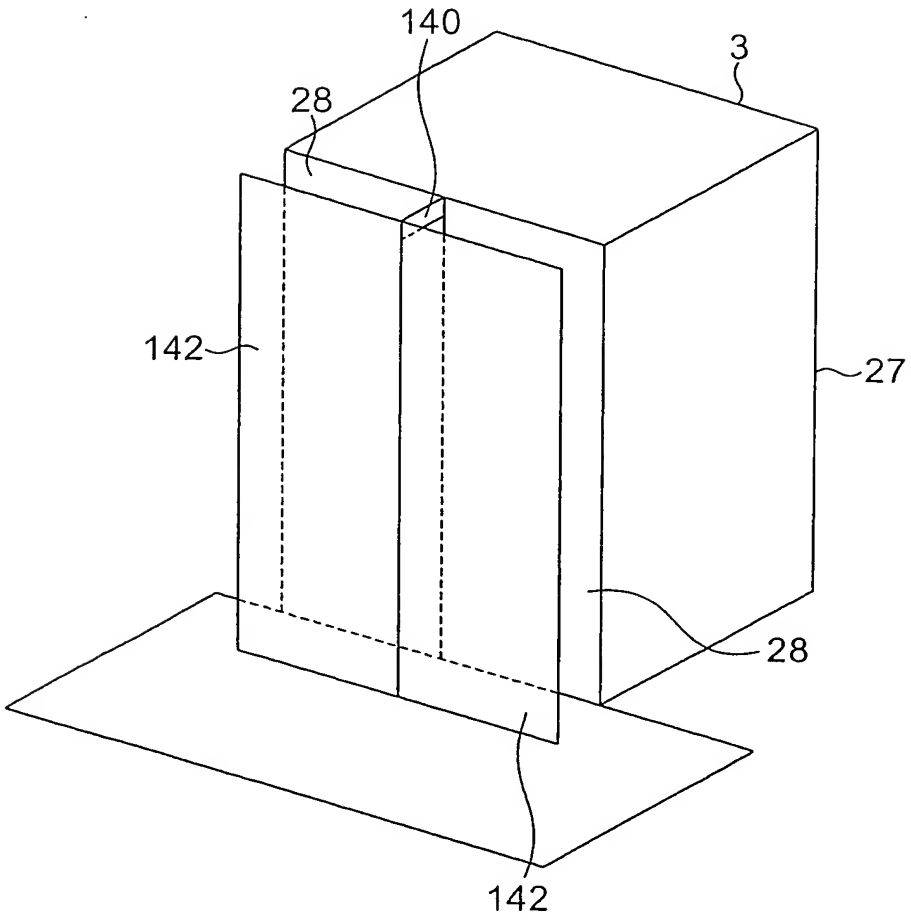


FIG. 28

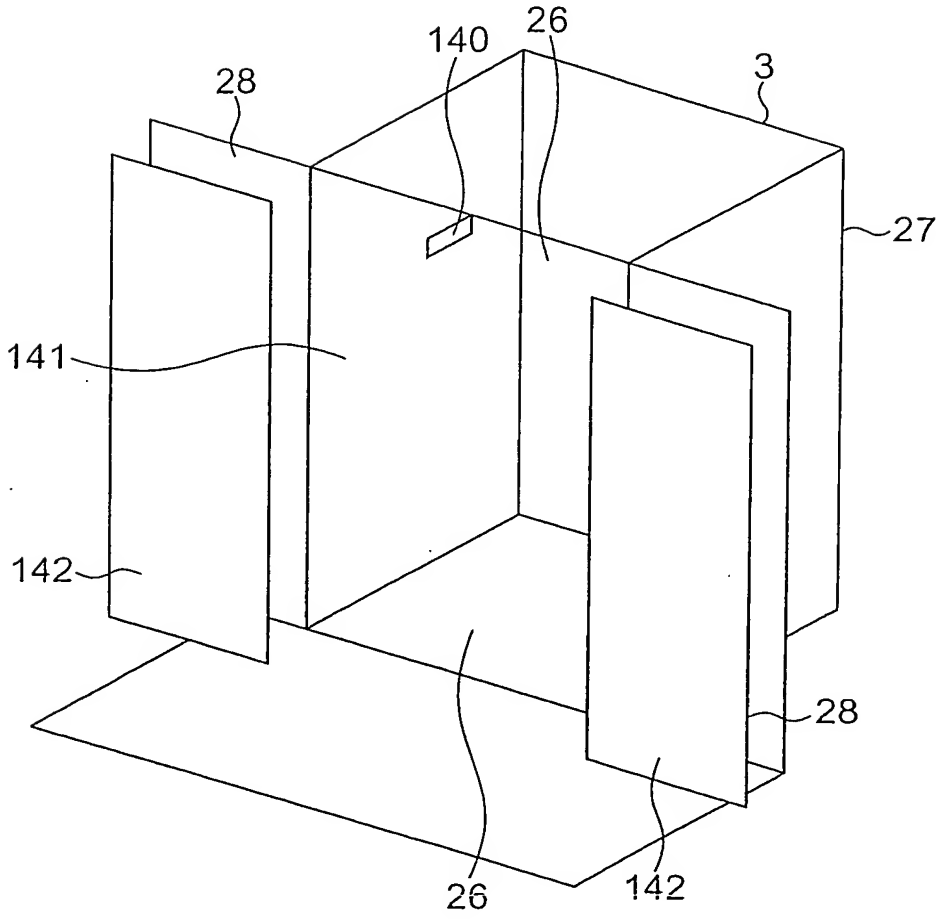


FIG. 29

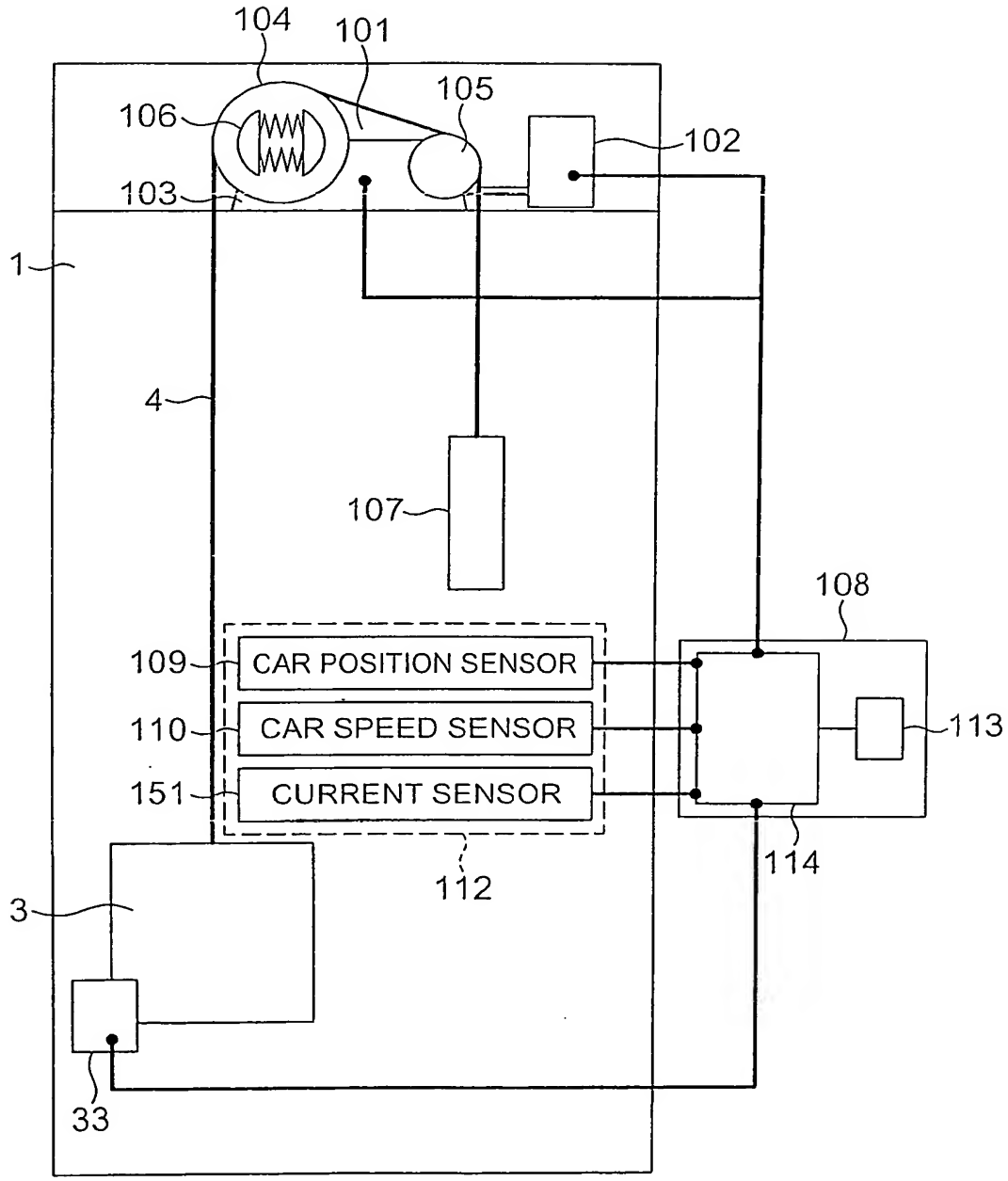

104
101
105
106
102
103
1
4
107
108
109
CAR POSITION SENSOR
110
CAR SPEED SENSOR
113
151
CURRENT SENSOR
114
112
3
33

FIG. 30

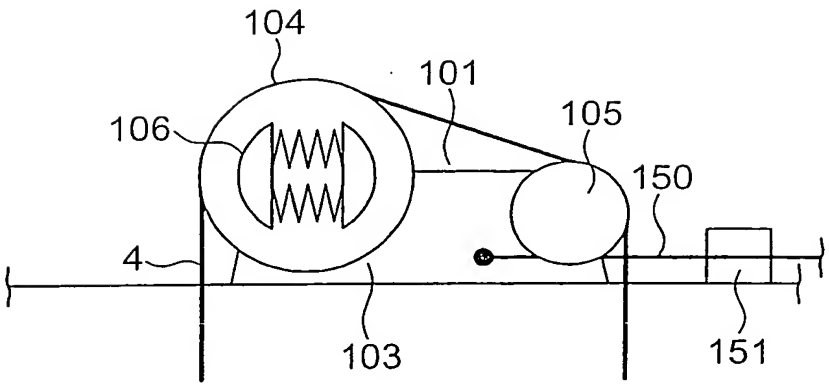


FIG.31

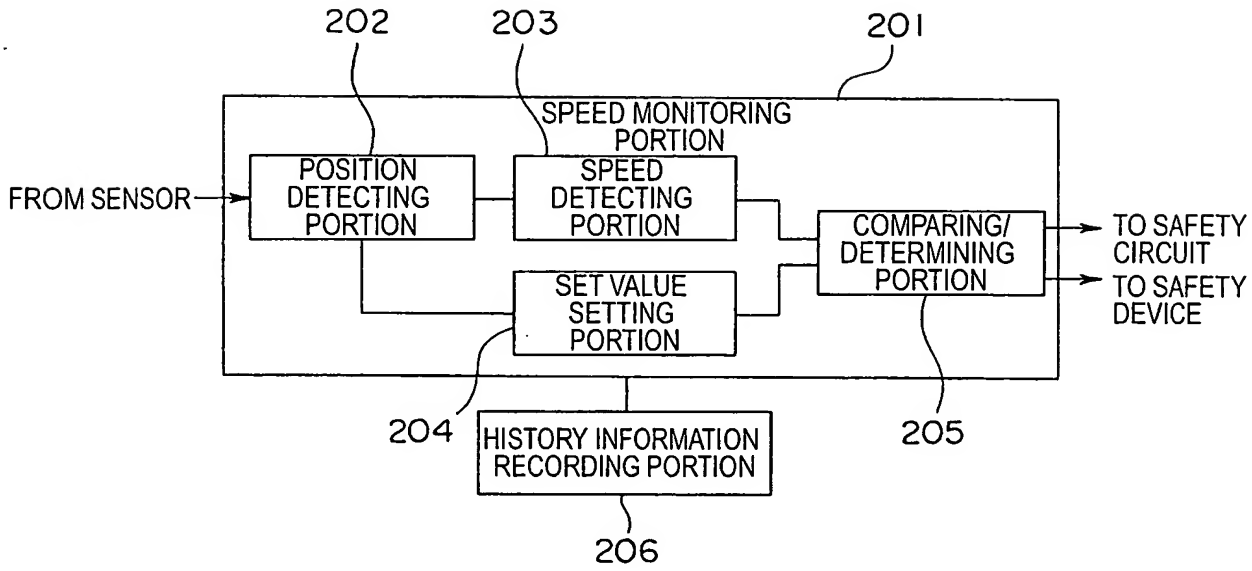

202
203
201
SPEED MONITORING PORTION
FROM SENSOR
POSITION DETECTING PORTION
SPEED DETECTING PORTION
COMPARING/ DETERMINING PORTION
TO SAFETY CIRCUIT
TO SAFETY DEVICE
SET VALUE SETTING PORTION
204
HISTORY INFORMATION RECORDING PORTION
205
206

FIG.32

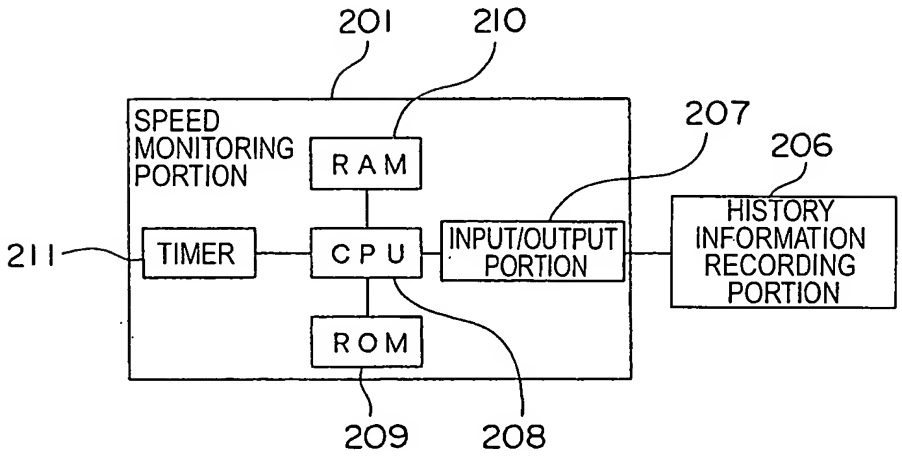


FIG.33

TIME	POSITION	SPEED	SET VALUE	DETERMINATION RESULT	ANALYTICAL DATA
t1	x1	V1	F (x1)	Good	Y1, Y2, ...
...	...	...	...	...	...
...		...	...	...	...

FIG.34

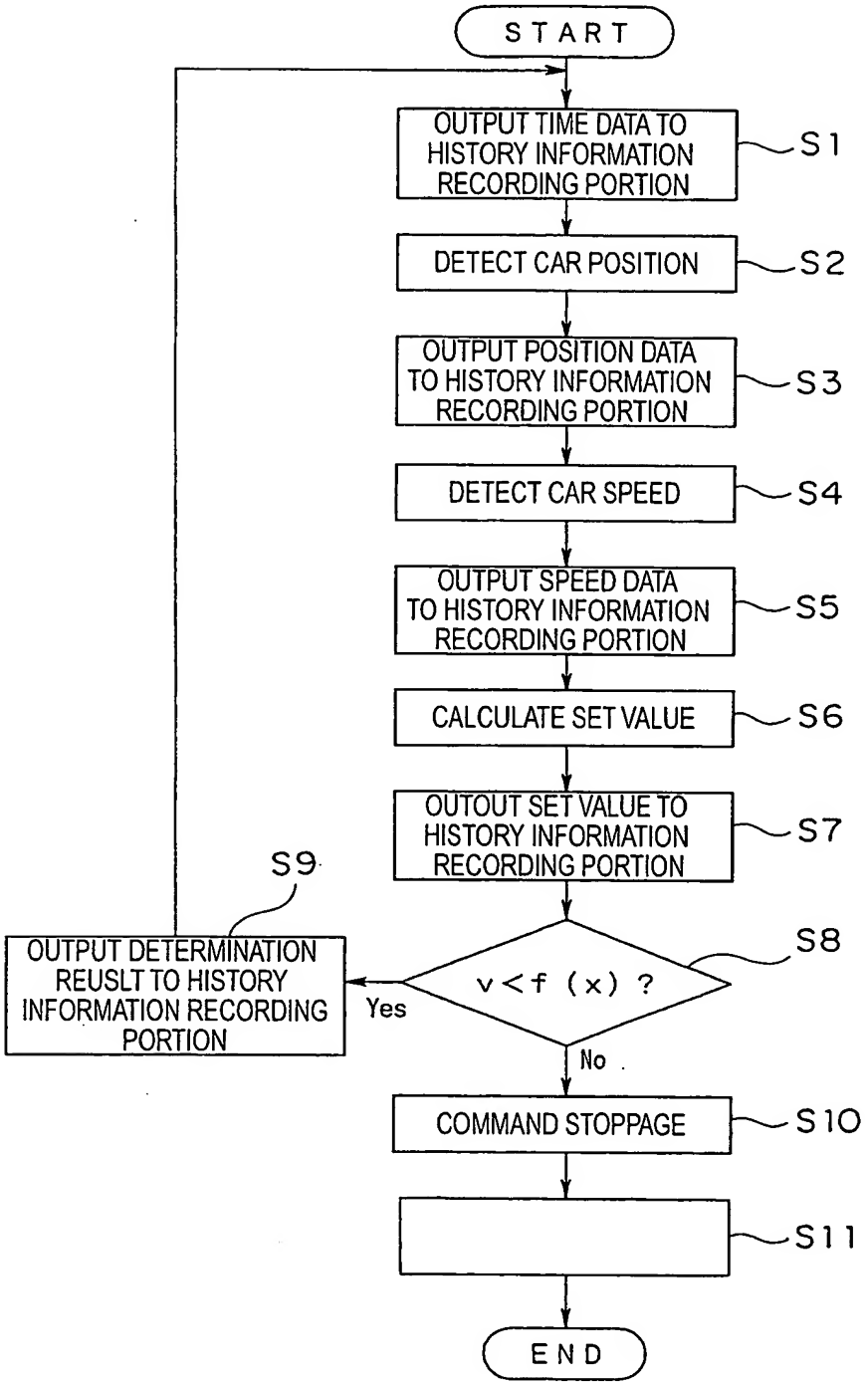

START
OUTPUT TIME DATA TO HISTORY INFORMATION RECORDING PORTION
S1
DETECT CAR POSITION
S2
OUTPUT POSITION DATA TO HISTORY INFORMATION RECORDING PORTION
S3
DETECT CAR SPEED
S4
OUTPUT SPEED DATA TO HISTORY INFORMATION RECORDING PORTION
S5
CALCULATE SET VALUE
S6
OUTOUT SET VALUE TO HISTORY INFORMATION RECORDING PORTION
S7
v<f (x) ?
S8
Yes
OUTPUT DETERMINATION REUSLT TO HISTORY INFORMATION RECORDING PORTION
S9
No
COMMAND STOPPAGE
S10
S11
END

FIG.35

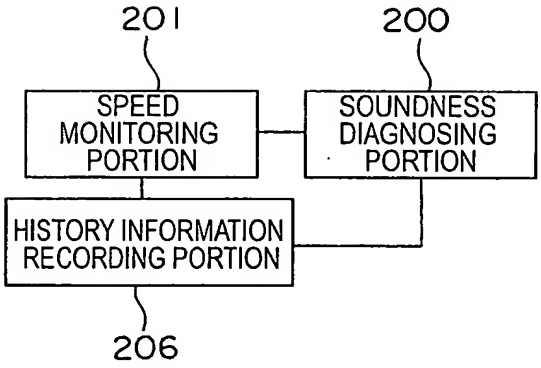
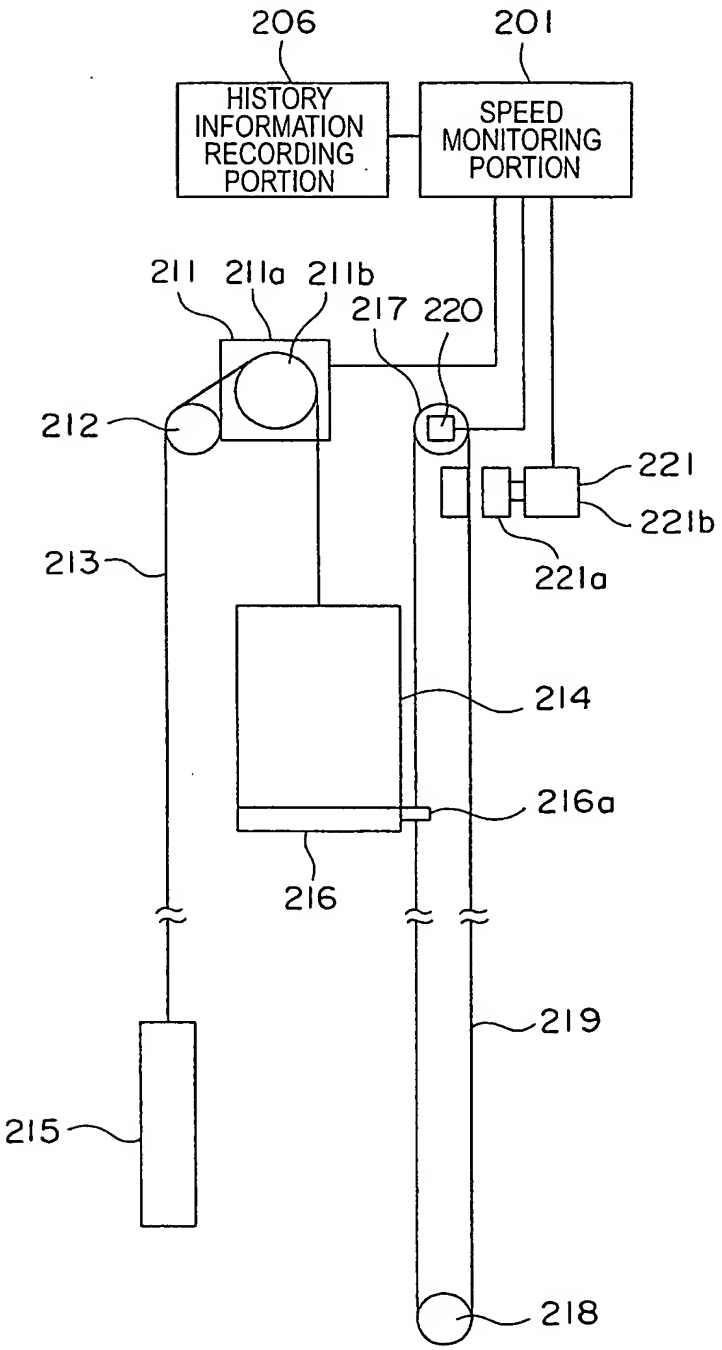

201
200
SPEED MONITORING PORTION
SOUNDNESS DIAGNOSING PORTION
HISTORY INFORMATION RECORDING PORTION
206

FIG.36


206
201
HISTORY INFORMATION RECORDING PORTION
SPEED MONITORING PORTION
211
211a
211b
217
220
212
221
221b
221a
213
214
216a
216
219
215
218